Complete Summary

GUIDELINE TITLE

Guideline on fluoride therapy.

BIBLIOGRAPHIC SOURCE(S)

American Academy of Pediatric Dentistry Liaison with Other Groups Committee, American Academy of Pediatric Dentistry Council on Clinical Affairs. Guideline on fluoride therapy. Pediatr Dent 2008-2009;30(7 Suppl):121-4. [75 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: American Academy of Pediatric Dentistry. Clinical guideline on fluoride therapy. Chicago (IL): American Academy of Pediatric Dentistry; 2003. 2 p. [14 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Dental caries

GUIDELINE CATEGORY

Counseling
Management
Prevention
Risk Assessment

CLINICAL SPECIALTY

Dentistry
Pediatrics

INTENDED USERS

Dentists
Patients

GUIDELINE OBJECTIVE(S)

To help practitioners and parents make decisions concerning appropriate use of fluoride as part of the comprehensive oral health care for infants, children, adolescents, and persons with special health care needs

TARGET POPULATION

Infants, children, adolescents, and persons with special health care needs

INTERVENTIONS AND PRACTICES CONSIDERED

1. Systemically administered fluoride supplements
2. Professionally-applied topical fluoride treatment
3. Fluoride-containing products for home use
4. Risk assessment

MAJOR OUTCOMES CONSIDERED

Incidence of dental caries

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A thorough review of the scientific literature pertaining to the use of systemic and topical fluoride was completed to revise and update this guideline. A MEDLINE search was conducted using the terms "fluoride", "fluoridation", "acidulated phosphate fluoride", "fluoride varnish", "fluoride therapy", and "topical fluoride". Expert opinions and best current practices were also relied upon for this guideline.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Clinical guidelines of the American Academy of Pediatric Dentistry (AAPD) are developed under the direction of the Board of Trustees, utilizing the resources and expertise of its membership operating through the Council on Clinical Affairs (CCA).

Proposals to develop or modify guidelines may originate from 4 sources:

1. The officers or trustees acting at any meeting of the Board of Trustees
2. A council, committee, or task force in its report to the Board of Trustees
3. Any member of the AAPD acting through the Reference Committee hearing of the General Assembly at the Annual Session
4. Officers, trustees, council and committee chairs, or other participants at the AAPD's Annual Strategic Planning Session

Regardless of the source, proposals are considered carefully, and those deemed sufficiently meritorious by a majority vote of the Board of Trustees are referred to the CCA for development or review/revision.

Once a charge (directive from the Board of Trustees) for development or review/revision of a clinical guideline is sent to the CCA, it is assigned to 1 or more members of the CCA for completion. CCA members are instructed to follow the specified format for a guideline. All clinical guidelines are based on 2 sources of evidence: (1) the scientific literature; and (2) experts in the field. Members may call upon any expert as a consultant to the council to provide expert opinion. The Council on Scientific Affairs provides input as to the scientific validity of a guideline.

The CCA meets on an interim basis (midwinter) to discuss proposed clinical guidelines. Each new or reviewed/revised guideline is reviewed, discussed, and confirmed by the entire council.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Once developed by the Council on Clinical Affairs (CCA), the proposed guideline is submitted for the consideration of the Board of Trustees. While the board may request revision, in which case it is returned to the council for modification, once accepted by majority vote of the board, it is referred for Reference Committee hearing at the upcoming Annual Session. At the Reference Committee hearing, the membership may provide comment or suggestion for alteration of the document before presentation to the General Assembly. The final document then is presented for ratification by a majority vote of the membership present and voting at the General Assembly. If accepted by the General Assembly, either as proposed or as amended by that body, the document then becomes the official American Academy of Pediatric Dentistry (AAPD) clinical guideline for publication in the AAPD's Reference Manual and on the AAPD's Web site.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

If an individual's caries risk level is uncertain, treating this person as high risk is prudent until further experience allows a more accurate assessment.

Systemically Administered Fluoride Supplements

Fluoride supplements should be considered for all children drinking fluoride-deficient (<0.6 parts per million [ppm]) water. After determining the fluoride level of the water supply or supplies (either through contacting public health officials or water analysis), evaluating other dietary sources of fluoride, and assessing the child's caries risk, the daily fluoride supplement dosage can be determined using the Dietary Fluoride Supplementation Schedule (see the table below). To optimize the topical benefits of systemic fluoride supplements, the child should be encouraged to chew or suck fluoride tablets.

Table: Dietary Fluoride Supplementation Schedule

Age	<0.3 ppm F	0.3-0.6 ppm F	>0.6 ppm F
Birth-6 months	0	0	0
6 months-3 years	0.25 mg	0	0
3-6 years	0.50 mg	0.25 mg	0
6 years up to at least 16 years	1.00 mg	0.50 mg	0

Professionally-Applied Topical Fluoride Treatment

Professional topical fluoride treatments should be based on caries-risk assessment. A pumice prophylaxis is not an essential prerequisite to this treatment. Appropriate precautionary measures should be taken to prevent swallowing of any professionally-applied topical fluoride. Children at moderate caries risk should receive a professional fluoride treatment at least every 6 months; those with high caries risk should receive greater frequency of professional fluoride applications (i.e., every 3-6 months). Ideally, this would occur as part of a comprehensive preventive program in a dental home. When a dental home cannot be established for individuals with increased caries risk as determined by caries risk assessment, periodic applications of fluoride varnish by trained non-dental healthcare professionals may be effective in reducing the incidence of early childhood caries.

Fluoride-Containing Products for Home Use

Therapeutic use of fluoride for children should focus on regimens that maximize topical contact, preferably in lower-dose, higher-frequency approaches. Fluoridated toothpaste should be used twice daily as a primary preventive procedure. Twice daily use has benefits greater than once daily brushing. Parents should be counseled on their child's caries risk, dispensing an appropriate volume of toothpaste onto a soft, age-appropriate sized toothbrush, frequency of brushing, and performing/assisting brushing of young children. A 'smear' of fluoridated toothpaste for children less than 2 years of age may decrease risk of fluorosis. A 'pea-size' amount of toothpaste is appropriate for children aged 2 through 5 years. To maximize the beneficial effect of fluoride in the toothpaste, rinsing after brushing should be kept to a minimum or eliminated altogether.

Additional at-home topical fluoride regimens utilizing increased concentrations of fluoride should be considered for children at high risk for caries. These may include over-the counter or prescription strength formulations. Fluoride mouth rinses or brush-on gels may be incorporated into a caries-prevention program for a school-aged child at high risk.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

All clinical guidelines are based on 2 sources of evidence: (1) the scientific literature; and (2) experts in the field.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Use of fluorides for the prevention and control of caries is documented to be both safe and highly effective. Daily fluoride exposure through water supplies and monitored use of fluoride toothpaste can be effective preventive procedures.

POTENTIAL HARMS

Risk of Fluorosis

Fluorosis has been associated with cumulative fluoride intake during enamel development, with the severity dependent on the dose, duration, and timing of intake.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Chart Documentation/Checklists/Forms
Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Academy of Pediatric Dentistry Liaison with Other Groups Committee, American Academy of Pediatric Dentistry Council on Clinical Affairs. Guideline on fluoride therapy. Pediatr Dent 2008-2009;30(7 Suppl):121-4. [75 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003 (revised 2008)

GUIDELINE DEVELOPER(S)

American Academy of Pediatric Dentistry - Professional Association

SOURCE(S) OF FUNDING

American Academy of Pediatric Dentistry

GUIDELINE COMMITTEE

Council on Clinical Affairs

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Council members and consultants derive no financial compensation from the American Academy of Pediatric Dentistry (AAPD) for their participation and are asked to disclose potential conflicts of interest.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: American Academy of Pediatric Dentistry. Clinical guideline on fluoride therapy. Chicago (IL): American Academy of Pediatric Dentistry; 2003. 2 p. [14 references]

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Pediatric Dentistry Web site.

Print copies: Available from the American Academy of Pediatric Dentistry, 211 East Chicago Avenue, Suite 700, Chicago, Illinois 60611.

AVAILABILITY OF COMPANION DOCUMENTS

Information about the American Academy of Pediatric Dentistry (AAPD) mission and guideline development process is available on the AAPD Web site.

The following implementation tools are available for download from the AAPD Web site:

- Dental growth and development chart
- American Academy of Pediatric Dentistry Caries-Risk Assessment Tool (CAT)

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on March 7, 2005. The information was verified by the guideline developer on April 18, 2005. This NGC summary was updated by ECRI Institute on June 9, 2009. The updated information was verified by the guideline developer on July 14, 2009.

COPYRIGHT STATEMENT

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion.aspx .

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

Date Modified: 8/10/2009